

REMARKS

Claims 1-16 are pending in this application. By this Amendment, claims 1, 2, 4, 5, 7, 8 and 12-16 have been amended. Claim 1 has been amended to further clarify the recited subject matter. Support for the amendments can be found, for example, at pg. 9, line 6 - pg. 11, line 20 and in Figs. 1-4B. Claims 1, 4, 5, 7, 8 and 12-16 have been amended to correct informalities. Thus, no new matter has been added.

I. Allowable Subject Matter

The indication that claims 5 and 11 contain allowable subject matter is appreciated. Applicant submits that all pending claims are allowable for at least the following reasons.

II. Claim Objections

The Office Action objects to claims 13-16 as being substantially duplicative of claim 12. Claims 13-16 have been amended responsive to the objection to correct dependencies.

Accordingly, withdrawal of the objections is respectfully requested.

III. 35 U.S.C. §112 Rejections

The Office Action rejects claims 1, 4 and 5 under 35 U.S.C. §112, second paragraph, for various terms that allegedly render the claims indefinite. Claims 1, 4 and 5 have been amended responsive to the rejection.

Accordingly, withdrawal of the rejection is respectfully requested.

Further, Applicant respectfully submits that all claims comply with 35 U.S.C. §112, second paragraph.

IV. 35 U.S.C. §§102 and 103 Rejections

The Office Action rejects claims 1 and 7 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,289,160 (hereinafter "Kawasaki"), rejects claims 1, 2, 4, 6, 7, 10 and 12-16 as being anticipated by U.S. Patent No. 3,090,398 (hereinafter "Adams"), and rejects

claims 3, 8 and 9 under 35 U.S.C. §103(a) as being unpatentable over Adams. These rejections are respectfully traversed.

Kawasaki discloses a conventional pilot-controlled pressure-limiting valve that provides for flow only from the passageway 24 to the back pressure chamber 39, and does not provide for flow in the opposite direction (i.e. from the back pressure chamber 39 to the passageway 24). Thus, Kawasaki fails to disclose "a throttle valve means which throttles a control oil flow in a first direction through the piston bore from the input port into the spring chamber according to a pressure-limiting function, and wherein the throttle valve means controls open a comparatively large cross-section of flow in an anti-cavitation function in the event of a control oil flow in a second direction that opposes the first direction," (emphasis added) as recited by claim 1.

Adams disclose a pressure limiting valve such that when pressure at the port 51 is higher than a pressure at port 52, hydraulic fluid enters the spring chamber 46 through the orifice 44. When the pilot valve 103 is opened, a pressure drops occurs above the orifice 44 and the piston 39 lifts off the valve seat. The piston 69 is pressurized downwards into the position shown in Figure 1.

On the other hand, when a pressure at the port 52 is higher, the piston is caused to move upwards by pressure from the nozzle 66 acting upon the lower annular surface of the piston 69. The piston 69 moves upwards until it is adjacent to the spool 39. The hydraulic fluid can then enter the spring chamber 46 through bore 83 and orifice 44.

The pressure in the spring chamber 46 is then lowered again via pilot valve 103 when a pressure at the port 52 reaches a maximum value. This causes the spool 39 to lift off the seat and the hydraulic fluid connection to the port 51 is opened.

Thus, Adams discloses fluid communication from port 51 to port 52 and from port 53 to port 51. However, in the pressure-limiting valve of Adams, the fluid always flows in one direction into the spring chamber 46 and from the spring chamber 46 to the control oil port.

Adams fails to disclose or render obvious "a throttle valve means which throttles a control oil flow in a first direction through the piston bore from the input port into the spring chamber according to a pressure-limiting function, and wherein the throttle valve means controls open a comparatively large cross-section of flow in an anti-cavitation function in the event of a control oil flow in a second direction that opposes the first direction," (emphasis added) as recited by claim 1.

For at least the above-stated reasons neither Kawasaki nor Adams disclose or render obvious at least the above-quoted feature of claim 1. Therefore, claim 1 is patentable. Claims 2-16 are also patentable for at least their various dependencies from claim 1 as well as for the additional features they recite.

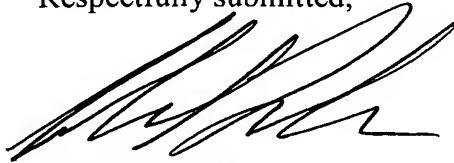
Accordingly, withdrawal of the rejections is respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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